

F69

PATENT SPECIFICATION (11)

1 444 085

1 444 085

- (21) Application No. 35559/72 (22) Filed 29 July 1972 (19)
(23) Complete Specification filed 24 Oct. 1973
(44) Complete Specification published 28 July 1976
(51) INT. CL.⁸ G07F 17/34
(52) Index at acceptance
G4V H8 PX6
(72) Inventor KENNETH MILLWARD



(54) COIN-FREED GAMING OR AMUSEMENT MACHINE

(71) I, ARTHUR SHAW, a British Subject, of 99—101 Broomfield Road, Earlsdon, Coventry, Warwickshire, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 The invention relates to a gaming or amusement machine of the kind (hereinafter called the kind described) comprising a coin-freed mechanism arranged to effect operation of a random selection device by which at
15 least one character or symbol is selected from a plurality of characters or symbols, and a pay-out mechanism operable, as a result of a winning selection having been made, to effect payment of a number of
20 coins or tokens corresponding to the winning selection.

The machine is particularly, but not exclusively, concerned with the well-known type of "fruit machine" in which, for example, three axially-spaced co-axial reels or drums, each carrying a plurality of symbols depicting fruits or other symbols at positions arranged around their peripheries, are spun by a mechanism freed by the insertion
25 of a coin or token into the machine and are then stopped in unpredictable relative positions in which the symbols on the reels appear side-by-side in a window in the machine housing. According to the combination of the symbols which appears in the window an appropriate pay-out is effected, if the combination is a winning one.

As an inducement to a player to play a succession of games, "fruit machines" are known in which certain winning combinations are awarded a "bonus", indicated for example by the illumination of a sign which remains illuminated after the completion of the game and is "stored" by the machine
40 until a predetermined number of "bonuses" have been indicated. Then an additional payment is made to the player of the game in which the final "bonus" is awarded and

the "bonus" sign will be cancelled. It is now a requirement under regulations relating to gaming machines in this country that no "bonuses" or the like shall be carried-over from one game or one player to another. Thus every game must be completed before a coin is inserted for a fresh game.

According to the present invention, a gaming or amusement machine of the kind described includes a further random selection device operable immediately after the playing of a game that has resulted in a winning selection and payment of the coins or tokens appropriate to the winning selection, the further random selection device including means operable by the player to effect stopping of said further random selection device, whereby to select at random at least one character or symbol from a plurality of characters or symbols and, in the event of the further selection device making a winning selection, to actuate a pay-out mechanism to effect payment of a further number of coins or tokens to the player.

Thus the present invention provides an inducement to play further games without contravening the foresaid regulations.

Conveniently, the further selection device is operable, as a result of a winning selection thereby, to effect at least one repeat operation of a pay-out mechanism previously operated during the game as a result of the winning selection by the first-mentioned random selection device.

Alternatively, the further selection device is operable, as a result of a winning selection thereby, to effect operation of a pay-out mechanism associated solely with the further selection device.

In a practical construction, said further selection device includes a rotary switch with a plurality of switch positions corresponding to individual selections, drive means for rotating the switch through said switch positions and control means for controlling the drive means to determine when the switch stops rotating.

Desirably, said rotary switch is connected

to a display screen arranged to indicate the selection made thereby.

Conveniently, the rotary switch includes comparator means for comparing the selection made thereby with the winning selection previously made by said first-mentioned random selection device in order to determine a winning selection for said further selection device.

For example, said rotary switch includes a first set of switch contacts associated with the display screen and a second set of switch contacts associated with the comparator means. Suitably in such an example said first set of switch contacts are separately connected to individual indicator lamps arranged to illuminate an associated symbol on the display screen when a first switch arm associated with said first set of switch contacts comes to rest on that particular switch contact. Again, in such an example, a suitable arrangement is one in which said second set of switch contacts is arranged to receive signals from the machine according to the previous win, each of said second switch contacts being associated with a particular winning selection of said first-mentioned random selection device and a winning selection being achieved for said further selection device if a second switch arm associated with said second set of switch contacts comes to rest on a contact associated with the previous winning selection of said first-mentioned random selection device.

Desirably, said rotary switch is operated upon a winning selection by said first-mentioned random selection device and a control switch for said rotary switch is also rendered operative whereby to stop the rotary switch when actuated.

Preferably, said rotary switch is rotated for a predetermined brief time period and then stopped upon each operation of the gaming machine and furthermore said control switch preferably incorporates a delay whereby the rotary switch stops at a predetermined time period after the operation of the control switch. In this way randomness in the operation of the further selection device is facilitated.

In practice, the machine conveniently includes a pay-out selector switch arranged to determine the value of the pay-out according to the particular winning selection and connected to said rotary switch to repeat the pay-out upon another winning selection being achieved.

In certain constructions there could be provided means for reactivating said further random selection device in the event of a winning selection being made thereby to enable the player to re-operate it for a predetermined number of times for as long as winning selections are being made. The chances of making a winning selection could

be gradually reduced for each further reoperation.

According to another aspect of the invention there is provided the combination of a gaming machine of the kind described with an ancillary gaming machine including a further random selection device, means for registering a winning selection and payment of coins or tokens appropriate to the winning selection by the first-mentioned gaming machine to actuate said further selection device, the latter including means operable by the player to select a random character or symbol from a plurality of characters or symbols, and, in the event of said further selection device making a winning selection, to actuate a pay-out mechanism to effect payment of a further number of coins or tokens to the player.

Conveniently, the pay-out mechanism in the first-mentioned gaming machine is employed to effect payment of said further number of coins or tokens and the ancillary gaming machine is provided with an output to effect a pay-out actuating signal to said pay-out mechanism in the first mentioned gaming machine.

By way of example of the invention, a "fruit machine" of a known kind including a random selection device comprising the reel mechanism described hereinbefore, but also having the aforesaid further random selection device according to the invention is now described with reference to the accompanying schematic circuit drawing.

In this example, the said further random selection device includes a display screen 50 representing a "card" divided into fifteen spaces, arranged in three rows of five columns and each displaying a picture of a fruit or other symbol corresponding to those symbols present on the reels of the machine. Of course other symbols may be used, as will be described later. The symbols are arranged to be illuminated by lamps connected in circuits including contacts of a rapidly-operable switch which controls the cyclical operation of the lamps in a predetermined sequence. The predetermined sequence is not the same as the sequential order of the symbols on the display screen 50 and the switching is sufficiently rapid as to give the observer an impression of random illumination of the symbols. A manually-operable control switch common to all the lamp circuits is connected in series with the contacts of the lamp circuits. This latter switch may conveniently comprise a push-button switch (hereinafter called the "lucky button") on the housing or fascia of the machine. An indicator is also provided to advise the player to press the "lucky button" when there has been a successful combination of symbols on the reels of the machine and the ensuing pay-out has been

effected. The function of the rapidly-operable switch and the "lucky button" will be described more fully hereinafter; but briefly as soon as a pay-out resulting from a successful game on the machine occurs, the rapidly-operable switch commences to operate and will continue to operate until a short period effected by a delay circuit or time switch after the pressing of the "lucky button" has elapsed. When the operation of the rapidly-operable switch ceases at the end of the aforesaid short period, the last of the symbols to be illuminated during the operation of the rapidly-operable switch remains illuminated. If this is a symbol which was present in the winning selection shown on the reels of the machine, there is a further pay-out. Until the "lucky button" has been pressed, the switching of the lamp circuits of the display screen 50 cannot be observed as the circuits to the lamps are still open. When the "lucky button" is pressed, the lamp circuits will be completed and so the flashing of the lamps of the display screen 50 is then observed and will continue for the aforesaid short period. As the player cannot determine which symbol on the display screen 50 will be the first to be illuminated when the "lucky button" is pressed, the display screen 50 together with the "lucky button" is a further random selection device and the possibility of a further pay-out gives an incentive to a player to play and pay for a succession of games and this incentive is within the gaming machine regulations because each game is complete in itself; the "bonus" win is not stored for further games.

Typical symbols on the reels of the fruit machine are cherries, oranges, plums, melons, lemons, bells, a boy's face and a "BAR". Three "BARS" are usually a jackpot on a single jackpot machine and additionally three melons for a double jackpot machine; some machines having more than two jackpots and accordingly using further symbol combinations. Typical winning combinations of symbols on the reels can be one and two cherry symbols, and three of the following symbols:—oranges, plums, melons, bells, faces and "BARS" or other combinations. Combinations including lemons are usually losing combinations resulting in no pay-out. The display screen 50 is conveniently marked with one each of the following winning symbols:—a single cherry symbol, a double cherry symbol, orange, plum, melon, bell, face and "BAR". A lemon symbol is present between each of these symbols. Thus the chance of the rapidly-operable switch stopping at one of the lucky symbols and causing a further pay-out is only 1 in 15.

If, for example, a game on the machine has resulted in a three oranges combination

the player receives say ten coins, and then presses the "lucky button". If the flashing sequence on the display screen 50 stops at an orange symbol (there being one chance in fifteen of this happening) he receives a further ten coins, because a signal from the said further random selection device re-energises the ten-coin pay-out mechanism. Similarly a three bells pay-out, followed by the pressing of the "lucky button" and the flashing sequence on the display screen 50 stopping at the bell symbol will result in a repeat pay-out. If the flashing sequence on the display screen 50 should stop at another symbol there would be no pay-out.

Turning now to the schematic circuit drawing, it should be appreciated that this is intended to illustrate only the general circuit layout and important circuit features, numerous circuit details having been omitted for clarity, for example those concerned with differentiating between certain symbols, such as bells and faces for which common components are used and features for preventing interference with the correct operation of the machine in order to achieve a winning selection. In the simplified circuit shown, provision is made for a single jackpot only, although two or more jackpots could be handled with appropriate circuit addition. Essentially, the circuit comprises five win detectors switches 12 each associated with a particular winning selection for the fruit machine, not shown, and each operable to trigger a rotary pay-out selector switch indicated generally by the chained line 15 to produce a predetermined pay-out and also, after each winning selection and the associated pay-out, to trigger the operation of a "lucky-button" rotary selector switch indicated generally by chained reference line 40. Each winning selection of the fruit machine corresponds to the alignment of a particular combination of symbols on the reels of the fruit machine in a viewing window. A typical fruit machine comprises a series of mechanical drive and locking devices and a series of levers to register the positions of the reels when stopped after being spun as a result of operation of the operating lever of the machine. It is from these levers that the switches 12 are arranged to operate.

Considering firstly the normal pay-out circuitry which occupies generally the left hand part of the circuit diagram, each switch 12 has a terminal connected through a diode 13 to a win detector relay 14 operable to close associated relay contacts 14a, 14b and 14c, as described later. The relay 14 also triggers into operation the motor 16 of the rotary pay-out selector switch 15 and this motor in turn rotates a series of seven cam wheels, the first of which operates as a control cam 17 and the following five of which are cams 18 associated with respective win

detector switches 12 and thus particular winning selections of the fruit machine. The cam wheels 18 each include a series of notches in their periphery according to the value of the pay-out, each notch representing the actuation of a solenoid coin dispenser, of which there are three, referenced 26, 27 and 28 arranged to pay out 5p, 10p and 50p respectively upon each actuation. Each cam wheel 18 has an associated microswitch 21 which registers the number of notches on the wheel upon each complete rotation. When the microswitch contacts are closed by the arm of the microswitch entering a notch, a signal is passed to an associated one of a series of relays 22 arranged to close contacts to a predetermined one or more of the solenoid coin dispenser units 26, 27 and 28. The overall operation of the pay-out is controlled by the cam 17, which has an associated microswitch 20 to register a complete revolution of the cam. This is achieved by providing the cam 17 with a single notch which marks the end of a complete rotation of the motor 16, the microswitch 20 being arranged to stop the motor 16 once a complete revolution has been made. Thus each winning selection causes one complete revolution of the rotary selector switch 15 and a series of pulses are applied to one or more of the solenoid operated pay-out units 26, 27 and 28 to pay out a number of coins according to which cam wheel 18 is connected to command the associated relay 22. This in turn is determined by which of the win detector switches 12 is closed to apply a d.c. voltage through the microswitch 21 to energise the relay 22.

When the relay 14 is energised contacts 14a are closed to provide an alternative connection to the d.c. supply independent of the diodes 13 and thus the relay effectively holds itself in an energised condition, regardless of whether or not the operating handle of the machine is pulled again to open the switches 12. At the same time contacts 14b are closed to apply d.c. voltage to relay contacts 23b of a "cash paid" relay 23, which registers, through the microswitch 20, when a complete revolution of the cam 17 has occurred. As the notch on the cam 17 is behind notches on the pay-out cams 18, the microswitch 20 will not be operated until all of the notches on any particular cam 18 have passed the respective microswitch 21 and thus the complete number of pay-out pulses have been applied to the pay-out solenoids 26, 27 and 28. Thus, microswitch 20 closes once the pay-out has been completed to apply a d.c. signal to energise the relay 23 thereby closing contacts 23a to energise the relay 23 independently of the microswitch 20 and to close relay contacts 23b to connected d.c. voltage to a cash paid indicator light 32, indicating to the player

that the pay-out corresponding to the previous win has been completed. At the same time as the relay 23 is energised to close contacts 23b, contacts 14b having been closed previously by the energisation of relay 14, a d.c. voltage is supplied to a "lucky button" indicator light 31 through normally-closed contacts 29b of a relay 29 to indicate that the "lucky button" switch 30 may be pressed. When the contacts of the "lucky button" switch 30 are closed a circuit is completed, via a diode 34, through relay 29 which is thereby energised to close contacts 29a to provide an alternative power supply path and also to open contacts 29b whereupon power is disconnected from the indicator light 31 which is thereby extinguished. The diode 34 prevents feedback of d.c. via contacts 29a to indicator light 32 should the "lucky button" switch 30 be pressed, for example during a pay-out and thus prevents a false indication from the indicator light 32. Contacts 29a ensure that relay 29 remains energised when the "lucky button" switch is released and independently of any further operation thereof. Thus only one "lucky button" selection can be made using the "lucky button" switch 30, in this particular example although, as described later, the circuit could be adapted to enable more than one such "lucky button" selection.

Relay contacts 24a, 24b, and 24c are normally held closed by the energisation of a relay 24 which acts as an anti-cheat device to cancel a win in the event of a failure or deliberate disconnection of the supply voltage to the machine. In this eventuality, the solenoids 26, 27 and 28 would be isolated from the power supply and the "cash paid" indicator light 31 would be illuminated. The rotary switch 15 would then automatically be reset. Once the operating handle of the fruit machine is pulled the switch 25 is closed to energise the relay 24 which remains energised by the closing of the contacts 24a to provide an alternative electrical supply path. Thus the contacts 24a and 24b are normally closed. If the mains is switched off and switched on again relay 24 is de-energised and can only be re-energised when the operating handle is re-operated. When the relay 24 is de-energised contacts 24b are opened and thus power is removed from the "lucky button" switch 30 and so relay 29 is de-energised.

Turning now to the "lucky button" win detection facility, this occupies generally the right-hand side of the circuit and comprises primarily a rotary selector switch 40 including a motor 41 which rotates wipers 51 and 52 and also a cam wheel 45 through a series of switch positions. The cam wheel 45 is provided with a series of notches in its periphery each notch in a position corresponding to one of the fixed contacts 43 and 44

associated with the wipers 51 and 52 respectively. There are fifteen such contacts 43 and 44 respectively and therefore fifteen notches in the cam wheel 45. However, only such number of the contacts 44 as is necessary to give the required number (for example, eight) of different winning selections is actually used, the remaining contacts not being connected into the circuit and simply serving to reduce the chances of the wiper 52 coming to rest on a contact 44 associated with a winning selection. The notches in the cam wheel 45 are registered by the arm of a microswitch 46 connected to control the supply to the motor 41 via the motor windings 42. The microswitch 46 is arranged so that, after rotation as a result of a winning selection on the reels of the machine, the motor can be halted, shortly after pressing the "lucky button" switch 30 when the microswitch arm enters a notch. This will correspond to a condition in which the wipers 51 and 52 are aligned on one of the contacts 43 and 44 respectively. The contacts 43 are connected to indicator lamps 49 on a display screen 50, which includes an array of symbols as previously described. Thus illumination of the lamps 49 in turn causes a particular symbol on the display screen 50 to be illuminated. The wiper 51 is connected to one side of a d.c. supply, via contact 29a of the relay 29, so that when, after pressing the "lucky button" switch 30, the wiper 51 comes to rest on a particular contact 43, the associated lamp 49 is illuminated. Similarly, the wiper 52 is connected to one side of a supply so that when it comes to rest on a particular contact 44 it may connect with an associated one of the lines 48 connected to the microswitches 12. For a non-jackpot winning selection, only one of the lines 48 will be connected to the d.c. supply according to which of the win detector switches 12 is operated and thus an electrical circuit will only be completed through the wiper 52 if it comes to rest in a position to connect with a contact 44 connected to a line 48 associated with the win condition. For a jackpot winning selection a special circuit arrangement, described later is employed to apply d.c. to the wiper 52. The wiper 52 is in fact connected to a pay-out reactivate circuit, including a relay contact which is open during and for a short time after rotation of the rotary switch 40 to prevent false pay-outs. The same pay-out as that associated with the previous win condition is repeated using the pay-out solenoids 26, 27 and 28. This is achieved by simply rotating the motor 16 of the switch 15 one more complete revolution under control of the cam 17 so that the relay 22 associated with the particular win condition will be re-energised an appropriate number of times. In order to introduce randomness

into the rotary switch 40, it is arranged to rotate for a brief time period determined by a momentary-action switch 55 after each operation of the operating handle of the fruit machine. In this case the rotary switch 40 may stop with the arm of the microswitch 46 between two notches on the cam wheel 45. The rotary switch 40 is re-operated upon a winning selection being made on the reels of the machine as a result of the closure of contacts 14c by relay 14.

The player is unable to predict which symbol will remain illuminated when the rotary switch 40 has become stationary because the flashing of the lamps illuminating the symbols of the display screen 50 occurs in a random manner. This is due to the commencement of rotation of the rotary switch 40 as soon as a pay-out following a winning selection of the reels of the fruit machine has been effected but without the lamps 49 being illuminated. Thus the player does not know which of the symbols on the display screen 50 will be the first to be illuminated as soon as he has pressed the "lucky button" switch 30. In other words, he cannot predict when he should press the "lucky button" switch 30. A further cause of the random effect is that a momentary-action switch 55 is provided to complete a circuit to the field windings 42 of the motor 41 each time the operating handle of the fruit machine is operated. This results in a brief operation of the rotary switch 40 each time the fruit machine is played, thus changing the position which will be occupied by the rotary switch 40 immediately prior to the commencement of its operation following a pay-out by the fruit machine. Another reason is that although the order of flashing of the lamps 49 is pre-determined by the connections made to the contacts of the switch 40, the speed of its rotation is rapid and the order is not the same as the sequential order of the symbols on the display screen 50. Thus in addition to the player being unaware of which symbol will be the first to be illuminated when he presses the "lucky button" switch 30, he cannot predict how many and which symbols will be illuminated. Finally, the period of time during which the flashing will occur after the pressing of the "lucky button" switch 30 is determined by a delay circuit in which the switch 35 is included and so it is not possible to predict which will be the final symbol to be illuminated.

The "odds" against a winning selection can be varied by using a different combination of symbols (e.g. more or less "lemon" symbols) and an appropriate alteration of the circuits.

In this particular example a single jackpot is equivalent to two particular combinations of symbols each of which themselves

represent a winning selection and thus the circuit must be arranged to suppress the pay-out which would normally result from either such winning selections and to make a special jackpot pay-out. The latter is made using solenoid 28 only whereas the individual winning selections would normally use solenoid 27; a special jackpot pay-out cam 18 being provided on the rotary switch 15 to operate the solenoid 28. At the same time the circuit must not make a jackpot pay-out as a result of only one of the winning selections being made. Thus, a special jackpot position is incorporated on the rotary switch 40, using, in this example, contact 44h. This particular contact is supplied with d.c. only when a jackpot winning selection is made, using relays 53 and 54 with associated relay contacts 53a, 53b, 53c and 54a, 54b respectively and which register the operation of the switches 12 on two lines associated with the individual winning selections. The energisation of relay 53 is controlled by relay 54 through contacts 54a and thus both relays are only energised upon both winning selections being made, whereupon contacts 53c close and d.c. is applied to contact 44h. At the same time contacts 53b and 54b open to disable the pay-out normally resulting from the operation of switches 12.

The display screen 50 may take other forms. For example the symbols may be arranged in a circle or in a single row or column. The displayed symbols need not be the same as those on the reels of the fruit machine. For example they could be numbers or simply "win" or "lose" symbols.

It is envisaged that the arrangement may employ the coin supply monitor device the subject of my British Patent Application No. 58900/71 (Serial No. 1,415,162) in the coin pay-out mechanism. The latter may include a facility for giving change and in this case the rotary switch 40 may be moved by each change-giving operation in order to vary the start of its operational sequence and thus ensure random selection thereby.

The circuit described, including the further selection device, may alternatively form a separate or ancillary unit for use with a known fruit machine. In such an arrangement provision would be made to couple the fruit machine and the further selection device together so that the ancillary unit would register a winning selection in the fruit machine and the ancillary unit would provide an output which would be fed back to the fruit machine to actuate the pay-out mechanism thereof, thereby avoiding the expense of duplication of the pay-out mechanism. Alternatively the ancillary unit could have its own independent pay-out mechanism.

It is also envisaged that means could be

provided for re-activating the "lucky button" winning selection device upon a predetermined winning selection (for example, a particular jackpot) being made thereby to enable it to be re-operated. Alternatively, a special stopping position of the rotary switch 40, or even of the reels themselves, could be provided for this purpose. Thus, the "lucky button" indicator light would be re-illuminated to indicate to the player that the "lucky button" itself could be pressed to stop the rotary switch 40 which would have been restarted after the previous "lucky button" winning selection, conveniently during or after the associated pay-out. The chances of making another winning selection could be reduced by, say, rendering some of the lines to the rotary selector switch 40 inoperative so that only certain winning selections could be registered.

WHAT I CLAIM IS:—

1. A gaming or amusement machine of the kind described including a further random selection device operable immediately after the playing of a game that has resulted in a winning selection and payment of coins or tokens appropriate to the winning selection, the further random selection device including means operable by the player to effect stopping of said further random selection device, whereby to select at random a character or symbol from a plurality of characters or symbols and, in the event of the further selection device making a winning selection, to actuate a pay-out mechanism to effect payment of a further number of coins or tokens to the player.

2. A gaming machine, as claimed in Claim 1, in which the further selection device is operable, as a result of a winning selection thereby, to effect at least one repeat operation of the pay-out mechanism previously operated during the game as a result of the winning selection by the first-mentioned random selection device.

3. A gaming machine, as claimed in Claim 1, in which the further selection device is operable, as a result of a winning selection thereby, to effect operation of a pay-out mechanism associated solely with the further selection device.

4. A gaming machine, as claimed in any of the preceding claims, in which said further selection device includes a rotary switch with a plurality of switch positions corresponding to individual selections, drive means for rotating the switch through said switch positions and control means for controlling the drive means to determine when the switch stops rotating.

5. A gaming machine, as claimed in Claim 4, in which said rotary switch is connected to a display screen arranged to indicate the selection made thereby.

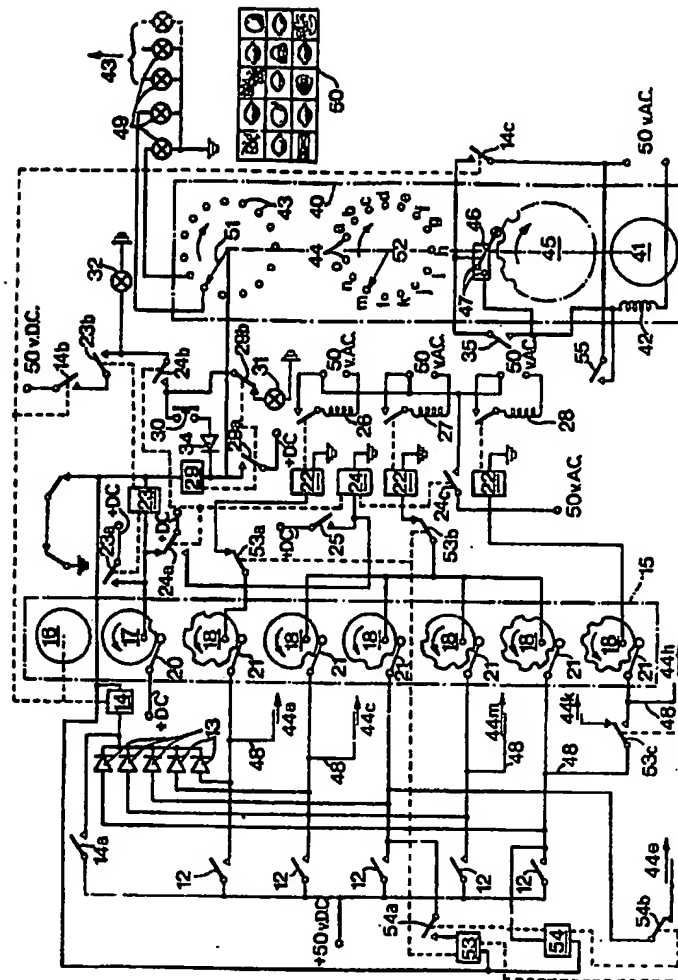
6. A gaming machine, as claimed in Claim 5, in which the rotary switch includes comparator means for comparing the selection made thereby with the winning selection previously made by said first-mentioned random selection device in order to determine a winning selection for said further selection device.
7. A gaming machine, as claimed in Claim 6, in which said rotary switch includes a first set of switch contacts associated with the display screen and a second set of switch contacts associated with the comparator means.
8. A gaming machine, as claimed in Claim 7, in which said first set of switch contacts are separately connected to individual indicator lamps arranged to illuminate an associated symbol on the display screen when a first switch arm associated with said first set of switch contacts comes to rest on that particular switch contact.
9. A gaming machine, as claimed in Claim 7 or Claim 8, in which said second set of switch contacts is arranged to receive signals from the machine according to the previous win, each of said second switch contacts being associated with a particular winning selection of said first-mentioned random selection device and a winning selection being achieved for said further selection device if a second switch arm associated with said second set of switch contacts comes to rest on a contact associated with the previous winning selection of said first-mentioned random selection device.
10. A gaming machine, as claimed in any of Claims 4 to 9, in which said rotary switch is operated upon a winning selection by said first-mentioned random selection device and a control switch for said rotary switch is also rendered operative whereby to stop the rotary switch when actuated.
11. A gaming machine, as claimed in Claim 10, in which said rotary switch is rotated for a predetermined brief time period and then stopped upon each operation of the gaming machine.
12. A gaming machine, as claimed in Claim 10 or 11, in which said control switch incorporates a delay whereby the rotary switch stops at a predetermined time period after the operation of the control switch.
13. A gaming machine, as claimed in any of Claims 4 to 12, including a pay-out selector switch arranged to determine the value of the pay-out according to the particular winning selection and connected to said rotary switch to repeat the pay-out upon another winning selection being achieved.
14. A gaming machine, as claimed in any of the preceding claims, including means for reactivating said further random selection device in the event of a winning selection being made thereby to enable the player to re-operate it for a predetermined number of times for as long as winning selections are being made, the chances of making a winning selection being gradually reduced for each further re-operation.
15. The combination of a gaming machine of the kind described with an ancillary gaming machine including a further random selection device, means for registering a winning selection and payment of coins or token appropriate to the winning selection by the first-mentioned gaming machine to actuate said further selection device, the latter including means operable by the player to select at random a character or symbol from a plurality of characters or symbols, and, in the event of said further selection device making a winning selection, to actuate a pay-out mechanism to effect payment of a further number of coins or tokens to the player.
16. The combination, as claimed in Claim 15, in which the pay-out mechanism in the first-mentioned gaming machine is employed to effect payment of said further number of coins or tokens and the ancillary gaming machine is provided with an output to effect a pay-out actuating signal to said pay-out mechanism in the first-mentioned gaming machine.
17. A gaming machine substantially as hereinbefore described, with reference to, and as shown in the accompanying drawing.
- WALFORD & HARDMAN BROWN,
Chartered Patent Agents,
Trinity House, Hales Street, Coventry,
Warwickshire.
Agents for the Applicant.

1444085

COMPLETE SPECIFICATION

1 SHEET

This drawing is a reproduction of
the Original on a reduced scale



PATENT SPECIFICATION (11)

1 444 085

1 444 085

- (21) Application No. 35559/72 (22) Filed 29 July 1972 (19)
 (23) Complete Specification filed 24 Oct. 1973
 (44) Complete Specification published 28 July 1976
 (51) INT. CL.² G07F 17/34
 (52) Index at acceptance
 G4V H8 PX6
 (72) Inventor KENNETH MILLWARD



SCIENCE REFERENCE LIBRARY

(54) COIN-FREED GAMING OR AMUSEMENT MACHINE

(71) I, ARTHUR SHAW, a British Subject, of 99—101 Broomfield Road, Earlsdon, Coventry, Warwickshire, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 The invention relates to a gaming or amusement machine of the kind (hereinafter called the kind described) comprising a coin-freed mechanism arranged to effect operation of a random selection device by which at
 15 least one character or symbol is selected from a plurality of characters or symbols, and a pay-out mechanism operable, as a result of a winning selection having been made, to effect payment of a number of
 20 coins or tokens corresponding to the winning selection.

The machine is particularly, but not exclusively, concerned with the well-known type of "fruit machine" in which, for example, three axially-spaced co-axial reels or drums, each carrying a plurality of symbols depicting fruits or other symbols at positions arranged around their peripheries, are spun by a mechanism freed by the insertion
 25 of a coin or token into the machine and are then stopped in unpredictable relative positions in which the symbols on the reels appear side-by-side in a window in the machine housing. According to the combination of the symbols which appears in the window an appropriate pay-out is effected, if the combination is a winning one.

As an inducement to a player to play a succession of games, "fruit machines" are known in which certain winning combinations are awarded a "bonus", indicated for example by the illumination of a sign which remains illuminated after the completion of the game and is "stored" by the machine
 30 until a predetermined number of "bonuses" have been indicated. Then an additional payment is made to the player of the game in which the final "bonus" is awarded and

the "bonus" sign will be cancelled. It is now a requirement under regulations relating to gaming machines in this country that no "bonuses" or the like shall be carried-over from one game or one player to another. Thus every game must be completed before a coin is inserted for a fresh game.

According to the present invention, a gaming or amusement machine of the kind described includes a further random selection device operable immediately after the playing of a game that has resulted in a winning selection and payment of the coins or tokens appropriate to the winning selection, the further random selection device including means operable by the player to effect stopping of said further random selection device, whereby to select at random at least one character or symbol from a plurality of characters or symbols and, in the event of the further selection device making a winning selection, to actuate a pay-out mechanism to effect payment of a further number of coins or tokens to the player.

Thus the present invention provides an inducement to play further games without contravening the foresaid regulations.

Conveniently, the further selection device is operable, as a result of a winning selection thereby, to effect at least one repeat operation of a pay-out mechanism previously operated during the game as a result of the winning selection by the first-mentioned random selection device.

Alternatively, the further selection device is operable, as a result of a winning selection thereby, to effect operation of a pay-out mechanism associated solely with the further selection device.

In a practical construction, said further selection device includes a rotary switch with a plurality of switch positions corresponding to individual selections, drive means for rotating the switch through said switch positions and control means for controlling the drive means to determine when the switch stops rotating.

Desirably, said rotary switch is connected

to a display screen arranged to indicate the selection made thereby.

Conveniently, the rotary switch includes comparator means for comparing the selection made thereby with the winning selection previously made by said first-mentioned random selection device in order to determine a winning selection for said further selection device.

For example, said rotary switch includes a first set of switch contacts associated with the display screen and a second set of switch contacts associated with the comparator means. Suitably in such an example said first set of switch contacts are separately connected to individual indicator lamps arranged to illuminate an associated symbol on the display screen when a first switch arm associated with said first set of switch contacts comes to rest on that particular switch contact. Again, in such an example, a suitable arrangement is one in which said second set of switch contacts is arranged to receive signals from the machine according to the previous win, each of said second switch contacts being associated with a particular winning selection of said first-mentioned random selection device and a winning selection being achieved for said further selection device if a second switch arm associated with said second set of switch contacts comes to rest on a contact associated with the previous winning selection of said first-mentioned random selection device.

Desirably, said rotary switch is operated upon a winning selection by said first-mentioned random selection device and a control switch for said rotary switch is also rendered operative whereby to stop the rotary switch when actuated.

Preferably, said rotary switch is rotated for a predetermined brief time period and then stopped upon each operation of the gaming machine and furthermore said control switch preferably incorporates a delay whereby the rotary switch stops at a predetermined time period after the operation of the control switch. In this way randomness in the operation of the further selection device is facilitated.

In practice, the machine conveniently includes a pay-out selector switch arranged to determine the value of the pay-out according to the particular winning selection and connected to said rotary switch to repeat the pay-out upon another winning selection being achieved.

In certain constructions there could be provided means for reactivating said further random selection device in the event of a winning selection being made thereby to enable the player to re-operate it for a predetermined number of times for as long as winning selections are being made. The chances of making a winning selection could

be gradually reduced for each further re-operation.

According to another aspect of the invention there is provided the combination of a gaming machine of the kind described with an ancillary gaming machine including a further random selection device, means for registering a winning selection and payment of coins or tokens appropriate to the winning selection by the first-mentioned gaming machine to actuate said further selection device, the latter including means operable by the player to select a random character or symbol from a plurality of characters or symbols, and, in the event of said further selection device making a winning selection, to actuate a pay-out mechanism to effect payment of a further number of coins or tokens to the player.

Conveniently, the pay-out mechanism in the first-mentioned gaming machine is employed to effect payment of said further number of coins or tokens and the ancillary gaming machine is provided with an output to effect a pay-out actuating signal to said pay-out mechanism in the first mentioned gaming machine.

By way of example of the invention, a "fruit machine" of a known kind including a random selection device comprising the reel mechanism described hereinbefore, but also having the aforesaid further random selection device according to the invention is now described with reference to the accompanying schematic circuit drawing.

In this example, the said further random selection device includes a display screen 50 representing a "card" divided into fifteen spaces, arranged in three rows of five columns and each displaying a picture of a fruit or other symbol corresponding to those symbols present on the reels of the machine. Of course other symbols may be used, as will be described later. The symbols are arranged to be illuminated by lamps connected in circuits including contacts of a rapidly-operable switch which controls the cyclical operation of the lamps in a predetermined sequence. The predetermined sequence is not the same as the sequential order of the symbols on the display screen 50 and the switching is sufficiently rapid as to give the observer an impression of random illumination of the symbols. A manually-operable control switch common to all the lamp circuits is connected in series with the contacts of the lamp circuits. This latter switch may conveniently comprise a push-button switch (hereinafter called the "lucky button") on the housing or fascia of the machine. An indicator is also provided to advise the player to press the "lucky button" when there has been a successful combination of symbols on the reels of the machine and the ensuing pay-out has been

effected. The function of the rapidly-operable switch and the "lucky button" will be described more fully hereinafter; but briefly as soon as a pay-out resulting from a successful game on the machine occurs, the rapidly-operable switch commences to operate and will continue to operate until a short period effected by a delay circuit or time switch after the pressing of the "lucky button" has elapsed. When the operation of the rapidly-operable switch ceases at the end of the aforesaid short period, the last of the symbols to be illuminated during the operation of the rapidly-operable switch remains illuminated. If this is a symbol which was present in the winning selection shown on the reels of the machine, there is a further pay-out. Until the "lucky button" has been pressed, the switching of the lamp circuits of the display screen 50 cannot be observed as the circuits to the lamps are still open. When the "lucky button" is pressed, the lamp circuits will be completed and so the flashing of the lamps of the display screen 50 is then observed and will continue for the aforesaid short period. As the player cannot determine which symbol on the display screen 50 will be the first to be illuminated when the "lucky button" is pressed, the display screen 50 together with the "lucky button" is a further random selection device and the possibility of a further pay-out gives an incentive to a player to play and pay for a succession of games and this incentive is within the gaming machine regulations because each game is complete in itself; the "bonus" win is not stored for further games.

Typical symbols on the reels of the fruit machine are cherries, oranges, plums, melons, lemons, bells, a boy's face and a "BAR". Three "BARS" are usually a jackpot on a single jackpot machine and additionally three melons for a double jackpot machine; some machines having more than two jackpots and accordingly using further symbol combinations. Typical winning combinations of symbols on the reels can be one and two cherry symbols, and three of the following symbols:—oranges, plums, melons, bells, faces and "BARS" or other combinations. Combinations including lemons are usually losing combinations resulting in no pay-out. The display screen 50 is conveniently marked with one each of the following winning symbols:—a single cherry symbol, a double cherry symbol, orange, plum, melon, bell, face and "BAR". A lemon symbol is present between each of these symbols. Thus the chance of the rapidly-operable switch stopping at one of the lucky symbols and causing a further pay-out is only 1 in 15.

If, for example, a game on the machine has resulted in a three oranges combination

the player receives say ten coins, and then presses the "lucky button". If the flashing sequence on the display screen 50 stops at an orange symbol (there being one chance in fifteen of this happening) he receives a further ten coins, because a signal from the said further random selection device re-energises the ten-coin pay-out mechanism. Similarly a three bells pay-out, followed by the pressing of the "lucky button" and the flashing sequence on the display screen 50 stopping at the bell symbol will result in a repeat pay-out. If the flashing sequence on the display screen 50 should stop at another symbol there would be no pay-out.

Turning now to the schematic circuit drawing, it should be appreciated that this is intended to illustrate only the general circuit layout and important circuit features, numerous circuit details having been omitted for clarity, for example those concerned with differentiating between certain symbols, such as bells and faces for which common components are used and features for preventing interference with the correct operation of the machine in order to achieve a winning selection. In the simplified circuit shown, provision is made for a single jackpot only, although two or more jackpots could be handled with appropriate circuit addition. Essentially, the circuit comprises five win detectors switches 12 each associated with a particular winning selection for the fruit machine, not shown, and each operable to trigger a rotary pay-out selector switch indicated generally by the chained line 15 to produce a predetermined pay-out and also, after each winning selection and the associated pay-out, to trigger the operation of a "lucky-button" rotary selector switch indicated generally by chained reference line 40. Each winning selection of the fruit machine corresponds to the alignment of a particular combination of symbols on the reels of the fruit machine in a viewing window. A typical fruit machine comprises a series of mechanical drive and locking devices and a series of levers to register the positions of the reels when stopped after being spun as a result of operation of the operating lever of the machine. It is from these levers that the switches 12 are arranged to operate.

Considering firstly the normal pay-out circuitry which occupies generally the left hand part of the circuit diagram, each switch 12 has a terminal connected through a diode 13 to a win detector relay 14 operable to close associated relay contacts 14a, 14b and 14c, as described later. The relay 14 also triggers into operation the motor 16 of the rotary pay-out selector switch 15 and this motor in turn rotates a series of seven cam wheels, the first of which operates as a control cam 17 and the following five of which are cams 18 associated with respective win 130

detector switches 12 and thus particular winning selections of the fruit machine. The cam wheels 18 each include a series of notches in their periphery according to the value of the pay-out, each notch representing the actuation of a solenoid coin dispenser, of which there are three, referenced 26, 27 and 28 arranged to pay out 5p, 10p and 50p respectively upon each actuation. Each cam wheel 18 has an associated microswitch 21 which registers the number of notches on the wheel upon each complete rotation. When the microswitch contacts are closed by the arm of the microswitch entering a notch, a signal is passed to an associated one of a series of relays 22 arranged to close contacts to a predetermined one or more of the solenoid coin dispenser units 26, 27 and 28. The overall operation of the pay-out is controlled by the cam 17, which has an associated microswitch 20 to register a complete revolution of the cam. This is achieved by providing the cam 17 with a single notch which marks the end of a complete rotation of the motor 16, the microswitch 20 being arranged to stop the motor 16 once a complete revolution has been made. Thus each winning selection causes one complete revolution of the rotary selector switch 15 and a series of pulses are applied to one or more of the solenoid operated pay-out units 26, 27 and 28 to pay out a number of coins according to which cam wheel 18 is connected to command the associated relay 22. This in turn is determined by which of the win detector switches 12 is closed to apply a d.c. voltage through the microswitch 21 to energise the relay 22.

When the relay 14 is energised contacts 14a are closed to provide an alternative connection to the d.c. supply independent of the diodes 13 and thus the relay effectively holds itself in an energised condition, regardless of whether or not the operating handle of the machine is pulled again to open the switches 12. At the same time contacts 14b are closed to apply d.c. voltage to relay contacts 23b of a "cash paid" relay 23, which registers, through the microswitch 20, when a complete revolution of the cam 17 has occurred. As the notch on the cam 17 is behind notches on the pay-out cams 18, the microswitch 20 will not be operated until all of the notches on any particular cam 18 have passed the respective microswitch 21 and thus the complete number of pay-out pulses have been applied to the pay-out solenoids 26, 27 and 28. Thus, microswitch 20 closes once the pay-out has been completed to apply a d.c. signal to energise the relay 23 thereby closing contacts 23a to energise the relay 23 independently of the microswitch 20 and to close relay contacts 23b to connected d.c. voltage to a cash paid indicator light 32, indicating to the player

that the pay-out corresponding to the previous win has been completed. At the same time as the relay 23 is energised to close contacts 23b, contacts 14b having been closed previously by the energisation of relay 14, a d.c. voltage is supplied to a "lucky button" indicator light 31 through normally-closed contacts 29b of a relay 29 to indicate that the "lucky button" switch 30 may be pressed. When the contacts of the "lucky button" switch 30 are closed a circuit is completed, via a diode 34, through relay 29 which is thereby energised to close contacts 29a to provide an alternative power supply path and also to open contacts 29b whereupon power is disconnected from the indicator light 31 which is thereby extinguished. The diode 34 prevents feedback of d.c. via contacts 29a to indicator light 32 should the "lucky button" switch 30 be pressed, for example during a pay-out and thus prevents a false indication from the indicator light 32. Contacts 29a ensure that relay 29 remains energised when the "lucky button" switch is released and independently of any further operation thereof. Thus only one "lucky button" selection can be made using the "lucky button" switch 30, in this particular example although, as described later the circuit could be adapted to enable more than one such "lucky button" selection.

Relay contacts 24a, 24b, and 24c are normally held closed by the energisation of a relay 24 which acts as an anti-cheat device to cancel a win in the event of a failure or deliberate disconnection of the supply voltage to the machine. In this eventuality, the solenoids 26, 27 and 28 would be isolated from the power supply and the "cash paid" indicator light 31 would be illuminated. The rotary switch 15 would then automatically be reset. Once the operating handle of the fruit machine is pulled the switch 25 is closed to energise the relay 24 which remains energised by the closing of the contacts 24a to provide an alternative electrical supply path. Thus the contacts 24a and 24b are normally closed. If the mains is switched off and switched on again relay 24 is de-energised and can only be re-energised when the operating handle is re-operated. When the relay 24 is de-energised contacts 24b are opened and thus power is removed from the "lucky button" switch 30 and so relay 29 is de-energised.

Turning now to the "lucky button" win detection facility, this occupies generally the right-hand side of the circuit and comprises primarily a rotary selector switch 40 including a motor 41 which rotates wipers 51 and 52 and also a cam wheel 45 through a series of switch positions. The cam wheel 45 is provided with a series of notches in its periphery each notch in a position corresponding to one of the fixed contacts 43 and 44

associated with the wipers 51 and 52 respectively. There are fifteen such contacts 43 and 44 respectively and therefore fifteen notches in the cam wheel 45. However, only such number of the contacts 44 as is necessary to give the required number (for example, eight) of different winning selections is actually used, the remaining contacts not being connected into the circuit and simply serving to reduce the chances of the wiper 52 coming to rest on a contact 44 associated with a winning selection. The notches in the cam wheel 45 are registered by the arm of a microswitch 46 connected to control the supply to the motor 41 via the motor windings 42. The microswitch 46 is arranged so that, after rotation as a result of a winning selection on the reels of the machine, the motor can be halted, shortly after pressing the "lucky button" switch 30 when the microswitch arm enters a notch. This will correspond to a condition in which the wipers 51 and 52 are aligned on one of the contacts 43 and 44 respectively. The contacts 43 are connected to indicator lamps 49 on a display screen 50, which includes an array of symbols as previously described. Thus illumination of the lamps 49 in turn causes a particular symbol on the display screen 50 to be illuminated. The wiper 51 is connected to one side of a d.c. supply, via contact 29a of the relay 29, so that when, after pressing the "lucky button" switch 30, the wiper 51 comes to rest on a particular contact 43, the associated lamp 49 is illuminated. Similarly, the wiper 52 is connected to one side of a supply so that when it comes to rest on a particular contact 44 it may connect with an associated one of the lines 48 connected to the microswitches 12. For a non-jackpot winning selection, only one of the lines 48 will be connected to the d.c. supply according to which of the win detector switches 12 is operated and thus an electrical circuit will only be completed through the wiper 52 if it comes to rest in a position to connect with a contact 44 connected to a line 48 associated with the win condition. For a jackpot winning selection a special circuit arrangement, described later is employed to apply d.c. to the wiper 52. The wiper 52 is in fact connected to a pay-out reactivate circuit, including a relay contact which is open during and for a short time after rotation of the rotary switch 40 to prevent false pay-outs. The same pay-out as that associated with the previous win condition is repeated using the pay-out solenoids 26, 27 and 28. This is achieved by simply rotating the motor 16 of the switch 15 one more complete revolution under control of the cam 17 so that the relay 22 associated with the particular win condition will be re-energised an appropriate number of times. In order to introduce randomness into the rotary switch 40, it is arranged to rotate for a brief time period determined by a momentary-action switch 55 after each operation of the operating handle of the fruit machine. In this case the rotary switch 40 may stop with the arm of the microswitch 46 between two notches on the cam wheel 45. The rotary switch 40 is re-operated upon a winning selection being made on the reels of the machine as a result of the closure of contacts 14c by relay 14.

The player is unable to predict which symbol will remain illuminated when the rotary switch 40 has become stationary because the flashing of the lamps illuminating the symbols of the display screen 50 occurs in a random manner. This is due to the commencement of rotation of the rotary switch 40 as soon as a pay-out following a winning selection of the reels of the fruit machine has been effected but without the lamps 49 being illuminated. Thus the player does not know which of the symbols on the display screen 50 will be the first to be illuminated as soon as he has pressed the "lucky button" switch 30. In other words, he cannot predict when he should press the "lucky button" switch 30. A further cause of the random effect is that a momentary-action switch 55 is provided to complete a circuit to the field windings 42 of the motor 41 each time the operating handle of the fruit machine is operated. This results in a brief operation of the rotary switch 40 each time the fruit machine is played, thus changing the position which will be occupied by the rotary switch 40 immediately prior to the commencement of its operation following a pay-out by the fruit machine. Another reason is that although the order of flashing of the lamps 49 is pre-determined by the connections made to the contacts of the switch 40, the speed of its rotation is rapid and the order is not the same as the sequential order of the symbols on the display screen 50. Thus in addition to the player being unaware of which symbol will be the first to be illuminated when he presses the "lucky button" switch 30, he cannot predict how many and which symbols will be illuminated. Finally, the period of time during which the flashing will occur after the pressing of the "lucky button" switch 30 is determined by a delay circuit in which the switch 35 is included and so it is not possible to predict which will be the final symbol to be illuminated.

The "odds" against a winning selection can be varied by using a different combination of symbols (e.g. more or less "lemon" symbols) and an appropriate alteration of the circuits.

In this particular example a single jackpot is equivalent to two particular combinations of symbols each of which themselves

represent a winning selection and thus the circuit must be arranged to suppress the pay-out which would normally result from either such winning selections and to make a special jackpot pay-out. The latter is made using solenoid 28 only whereas the individual winning selections would normally use solenoid 27; a special jackpot pay-out cam 18 being provided on the rotary switch 15 to operate the solenoid 28. At the same time the circuit must not make a jackpot pay-out as a result of only one of the winning selections being made. Thus, a special jackpot position is incorporated on the rotary switch 40, using, in this example, contact 44h. This particular contact is supplied with d.c. only when a jackpot winning selection is made, using relays 53 and 54 with associated relay contacts 53a, 53b, 53c and 54a, 54b respectively and which register the operation of the switches 12 on two lines associated with the individual winning selections. The energisation of relay 53 is controlled by relay 54 through contacts 54a and thus both relays are only energised upon both winning selections being made, whereupon contacts 53c close and d.c. is applied to contact 44h. At the same time contacts 53b and 54b open to disable the pay-out normally resulting from the operation of switches 12.

The display screen 50 may take other forms. For example the symbols may be arranged in a circle or in a single row or column. The displayed symbols need not be the same as those on the reels of the fruit machine. For example they could be numbers or simply "win" or "lose" symbols.

It is envisaged that the arrangement may employ the coin supply monitor device the subject of my British Patent Application No. 58900/71 (Serial No. 1,415,162) in the coin pay-out mechanism. The latter may include a facility for giving change and in this case the rotary switch 40 may be moved by each change-giving operation in order to vary the start of its operational sequence and thus ensure random selection thereby.

The circuit described, including the further selection device, may alternatively form a separate or ancillary unit for use with a known fruit machine. In such an arrangement provision would be made to couple the fruit machine and the further selection device together so that the ancillary unit would register a winning selection in the fruit machine and the ancillary unit would provide an output which would be fed back to the fruit machine to actuate the pay-out mechanism thereof, thereby avoiding the expense of duplication of the pay-out mechanism. Alternatively the ancillary unit could have its own independent pay-out mechanism.

It is also envisaged that means could be

provided for re-activating the "lucky button" winning selection device upon a predetermined winning selection (for example, a particular jackpot) being made thereby to enable it to be re-operated. Alternatively, a special stopping position of the rotary switch 40, or even of the reels themselves, could be provided for this purpose. Thus, the "lucky button" indicator light would be re-illuminated to indicate to the player that the "lucky button" itself could be pressed to stop the rotary switch 40 which would have been restarted after the previous "lucky button" winning selection, conveniently during or after the associated pay-out. The chances of making another winning selection could be reduced by, say, rendering some of the lines to the rotary selector switch 40 inoperative so that only certain winning selections could be registered.

WHAT I CLAIM IS:—

1. A gaming or amusement machine of the kind described including a further random selection device operable immediately after the playing of a game that has resulted in a winning selection and payment of coins or tokens appropriate to the winning selection, the further random selection device including means operable by the player to effect stopping of said further random selection device, whereby to select at random a character or symbol from a plurality of characters or symbols and, in the event of the further selection device making a winning selection, to actuate a pay-out mechanism to effect payment of a further number of coins or tokens to the player.

2. A gaming machine, as claimed in Claim 1, in which the further selection device is operable, as a result of a winning selection thereby, to effect at least one repeat operation of the pay-out mechanism previously operated during the game as a result of the winning selection by the first-mentioned random selection device.

3. A gaming machine, as claimed in Claim 1, in which the further selection device is operable, as a result of a winning selection thereby, to effect operation of a pay-out mechanism associated solely with the further selection device.

4. A gaming machine, as claimed in any of the preceding claims, in which said further selection device includes a rotary switch with a plurality of switch positions corresponding to individual selections, drive means for rotating the switch through said switch positions and control means for controlling the drive means to determine when the switch stops rotating.

5. A gaming machine, as claimed in Claim 4, in which said rotary switch is connected to a display screen arranged to indicate the selection made thereby.

1,444,085

6. A gaming machine, as claimed in Claim 5, in which the rotary switch includes comparator means for comparing the selection made thereby with the winning selection previously made by said first-mentioned random selection device in order to determine a winning selection for said further selection device.
7. A gaming machine, as claimed in Claim 6, in which said rotary switch includes a first set of switch contacts associated with the display screen and a second set of switch contacts associated with the comparator means.
8. A gaming machine, as claimed in Claim 7, in which said first set of switch contacts are separately connected to individual indicator lamps arranged to illuminate an associated symbol on the display screen when a first switch arm associated with said first set of switch contacts comes to rest on that particular switch contact.
9. A gaming machine, as claimed in Claim 7 or Claim 8, in which said second set of switch contacts is arranged to receive signals from the machine according to the previous win, each of said second switch contacts being associated with a particular winning selection of said first-mentioned random selection device and a winning selection being achieved for said further selection device if a second switch arm associated with said second set of switch contacts comes to rest on a contact associated with the previous winning selection of said first-mentioned random selection device.
10. A gaming machine, as claimed in any of Claims 4 to 9, in which said rotary switch is operated upon a winning selection by said first-mentioned random selection device and a control switch for said rotary switch is also rendered operative whereby to stop the rotary switch when actuated.
11. A gaming machine, as claimed in Claim 10, in which said rotary switch is rotated for a predetermined brief time period and then stopped upon each operation of the gaming machine.
12. A gaming machine, as claimed in Claim 10 or 11, in which said control switch incorporates a delay whereby the rotary switch stops at a predetermined time period after the operation of the control switch.
13. A gaming machine, as claimed in any of Claims 4 to 12, including a pay-out selector switch arranged to determine the value of the pay-out according to the particular winning selection and connected to said rotary switch to repeat the pay-out upon another winning selection being achieved.
14. A gaming machine, as claimed in any of the preceding claims, including means for reactivating said further random selection device in the event of a winning selection being made thereby to enable the player to re-operate it for a predetermined number of times for as long as winning selections are being made, the chances of making a winning selection being gradually reduced for each further re-operation.
15. The combination of a gaming machine of the kind described with an ancillary gaming machine including a further random selection device, means for registering a winning selection and payment of coins or token appropriate to the winning selection by the first-mentioned gaming machine to actuate said further selection device, the latter including means operable by the player to select at random a character or symbol from a plurality of characters or symbols, and, in the event of said further selection device making a winning selection, to actuate a pay-out mechanism to effect payment of a further number of coins or tokens to the player.
16. The combination, as claimed in Claim 15, in which the pay-out mechanism in the first-mentioned gaming machine is employed to effect payment of said further number of coins or tokens and the ancillary gaming machine is provided with an output to effect a pay-out actuating signal to said pay-out mechanism in the first-mentioned gaming machine.
17. A gaming machine substantially as hereinbefore described, with reference to, and as shown in the accompanying drawing.

WALFORD & HARDMAN BROWN,
Chartered Patent Agents,
Trinity House, Hales Street, Coventry,
Warwickshire.
Agents for the Applicant.

**This drawing is a reproduction of
the Original on a reduced scale**

